COMMONWEALTH OF VIRGINIA

Department of Environmental Quality
Northern Virginia Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Motiva Enterprises LLC
Springfield Terminal
8206 Terminal Road
Lorton, Virginia
Permit Number VA-70234

The Clean Air Act Amendments of 1990 required each state to develop a permit program to ensure that certain facilities have a federal Air Pollution Operating Permit' referred to as a Title V Operating Permit. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Motiva Enterprises LLC, formerly Shell Oil Company, has applied for a Title V Operating Permit for its Springfield Terminal Facility. The Department has reviewed the application and has prepared a Title V Permit.

Engineer/Permit Contact:_____ Date:_____

Air Permit Manager:_____ Date:_____

Regional Permit Manager:_____ Date:_____

FACILITY INFORMATION

Permittee:
Motiva Enterprises LLC
8206 Terminal Road
Lorton, Virginia 22709

Facility:
Motiva Enterprises LLC
Springfield Terminal
8206 Terminal Road
Lorton, Virginia 22709

AIRS Identification Number: 51-059-0064

SOURCE DESCRIPTION

SIC code number: 5171
The Motiva Enterprises LLC facility, formerly Shell Oil Company - Springfield Terminal, is a grandfathered petroleum liquids storage and distribution terminal (SIC Code 5171- Bulk Stations and Terminals). The original registration is dated June 26, 1972. Tanks 5, 6, 7, and 10 were listed as fixed roof tanks equipped with internal floating roofs (IFRs). Tanks 1, 2, 3, 4, 8, and 9 were listed as simply fixed roof tanks. Tank #1 was modified by the installation of an IFR in December 1974 - No permit was required. Tank #2 was modified by the installation of an IFR in 1979. No permit was required.

By 1989 the regulations had become more stringent. In June of 1989 it was learned that an IFR had been installed in Tank #4. The installation was a violation of regulations and a notice of violation (NOV) was issued. At the time, it was thought that an NSPS (40 CFR 60, Subpart Kb) was applicable. The permit issued in December 1989 and revised in March 1990 was later revised to increase the throughput of Tank #4, in July 1991.

A letter from the source dated June 1992 took exception to the NSPS Subpart Kb classification of the permit issued 3-1/2 years before. EPA made a determination (Ltr. from Donna Abrams, March 1993) that the NSPS was not applicable to the modification of tank #4. A new permit was issued rescinding the previous NSPS permit. The new permit removed reference to the NSPS. The new permit was based on the 9 VAC 5-80-10 (formerly Section 120-08-01 of State

Regulations)). The change in fuels stored - distillate to gasoline - appreciably increased emissions. The new permit retained the inspections for the internal floating roof and associated seals it also listed emission limits in pounds per hour, tons per year, and total annual throughput of gasoline for this tank. These emissions were listed "for emission inventory purposes only. The permit has recently been amended to remove the individual tank emission limits in favor of the total facility throughput limits.

The facility receives gasoline and distillates (diesel, kerosene, and jet A fuel.) via pipeline. Additives are received by tanker truck. Gasoline is stored in seven fixed roof tanks equipped with internal floating roofs. Distillates and Jet fuel are stored in fixed roof tanks, although they could be stored in tanks with IFRs. Additives are received by truck, stored, and transferred to the loading rack where they are mixed with the appropriate fuel and dispensed during tanker truck loading. Gasoline, diesel fuel, kerosene, and Jet fuel are dispensed through a four (4) lane loading rack. All lanes are of the bottom loading type.

Vapor associated with the tank truck loading at the rack are collected by a vapor recovery unit (VRU) wherein vapors are collected in bladder tanks and routed to the (VRU) which is comprised of dual carbon beds. The vapor is collected by a bed, it is condensed and the product is returned to the storage system. The carbon beds are operated on an alternating time schedule. The first one operates for a set period of time. The second bed is brought on line and the first one is shut down for maintenance. The second one is operated for its time period and the first one restarts so the second unit can be shut down for maintenance service.

Tank trucks arriving at the rack log in manually. Certification is verified and the tanker is then loaded. If the identification is not validated the driver must show evidence of the vapor tightness compliance for his tanker or the tanker will not be loaded. Two attempts by a driver to load an uncertified tanker will result in the driver being banned from service at the terminal. Tanker identification is manually audited quarterly.

Two operational scenarios are presented in the application. The first (ALT1) proposes operation as the site is presently configured with seven (7) gasoline storage tanks with internal floating roofs, each having primary and secondary seals for those floating roofs. The second (ALT2) is proposed as having ten (10) tanks facilitated with internal floating roofs for storing gasoline. This would require modification of three tanks, specifically tanks TO3, TO8, and TO9 by the installation of a floating roof in each with the appropriate seals.. The installation of a floating roof would not be a modification to a tank according to New Source Review; however, a permit would be required because such an installation would be a change in product stored and emissions would increase (distillate to gasoline). A change in the product contained in the tank with the associated increase in emissions would require a (State) permit. There is no schedule for converting tanks from fixed roof to IFR because each tank converted would be required to undergo the permitting process whether singly or in aggregate.

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COMPLIANCE STATUS

Motiva Enterprises LLC, Springfield Terminal is inspected semi annually.

The last inspection occurred on February 10, 1999, and it was determined to be in compliance.

SIGNIFICANT EMISSION UNITS AND CONTROL DEVICES

Table I. SIGNIFICANT EMISSION UNITS AND CONTROLS

Emission Unit	Description	Size/Cap.	Product*	Pollutant	Controls	Applicability
TO1	Storage Tank	621,600 gal	Gasoline	VOC	IFR & Throughput	Grandfathered
TO2	Storage Tank	2,524,200 gal	Gasoline	VOC	IFR & Throughput	Grandfathered
TO3[1]	Storage Tank	462,000	Gasoline	VOC	IFR & Throughput[1]	Grandfathered
TO4	Storage Tank	1,222,200 gal	Gasoline	VOC	IFR & Throughput	Permit issued 12/15/93
TO5	Storage Tank	1,533,000 gal	Gasoline	VOC	IFR & Throughput	Grandfathered
TO6	Storage Tank	3,028,200 gal	Gasoline	VOC	IFR & Throughput	Grandfathered
TO7	Storage Tank	1,591,800 gal	Gasoline	VOC	IFR & Throughput	Grandfathered
TO8[1]	Storage Tank	2,129,400	Gasoline	VOC	IFR & Throughput[1]	Grandfathered
TO9[1]	Storage Tank	2,129,400	Gasoline	VOC	IFR & Throughput[1]	Grandfathered
T10	Storage Tank10	3,519,600	Gasoline	VOC	IFR & Throughput	Grandfathered
-	Loading Rack	144,000 gal/hr[2]	Gasoline	VOC	Vapor Recovery Unit	40 CFR 60, Subpart XX

* Gasoline is the primary pollutant emitted. It is used as a worst case

[1] Tanks TO3, TO8, and TO9 are to be converted to IFR's under an alternative operating scenario, ALT2.

[2] Maximum throughput of pumps

EMISSION INVENTORY

A copy of the emission inventory for the previous year (1997) is attached.

Table II.[1.] - VOCs

Description	Annual - tons/year	Method
Standing Loss - Gasoline	33.67	AP-42 (Tanks 3)
Withdrawal Loss - Gasoline	0.20	AP-42 (Tanks 3)
Gas T/T Loading (VRU)	0.60	AP-42 (Tanks 3)
Truck Loading Losses	12.09	AP-42 (Tanks 3)
Breathing Loss Kero (Fx'ed Roof)	1.013	AP-42 (Tanks 3)
Work loss Kero (Fx'ed Roof)	1.541	AP-42 (Tanks 3)
Jet T/T loading (VRU)	0.01	AP-42 (Tanks 3)
Fugitives (valves etc.)	1.15	AP-42
Interface Loading (VRU)	0.02	AP-42
Total[2.]	50.294	

[1.] Based on a throughput of 356,004,417 gallons total throughput and total VOC emissions of 50.29 tons/year.
[2.] All except VRU are fugitive emissions.

HAZARDOUS AIR POLLUTANT EMISSIONS

Table III. Actual HAPs - tons/year

MTBE	Hexane	Toluene	Xylenes	Total
3.31	0.32	0.22	0.08	4.3

***** Based on a throughput limit of 223,000,000 gallons of gasoline which was the last year for reporting..

EMISSION UNIT APPLICABLE REQUIREMENT

The facility is essentially grandfathered. One exception is the VRU which was replaced in 1986; therefore, 40 CFR 60, Subpart XX applies One applicable permit concerning tank TO4 limited the throughput of gasoline and it listed emissions of lbs/hr and tons/yr for inventory purposes . The permit

has been amended (attached) to allow for a total facility throughput limit of gasoline rather than to retain a limit on an individual tank. Facility throughputs are found at Part III Conditions A. 1. a. and b. of the Title V permit.

Limitations

The following limitations are SIP requirements under Rule 4-37:

1. Storage tanks with a capacity of 40, 000 gallons or more must have a control device which will reduce VOC emissions by 90% by weight. Tanks TO1, TO2, TO4, TO5, TO6, TO7, and T10 are equipped with internal floating roofs (IFR) with primary and secondary seals. Products stored in tanks TO3, TO8, and TO9 have a Reid vapor pressure less than 1.5 psi. (9 VAC 5-40-5220. A. 1 and 2)

2. No owner or other person shall use or permit the use of any bulk gasoline plant (including any appurtenant equipment necessary to load or unload tank trucks and account trucks) unless such plant is equipped with a vapor control system that will remove, destroy or prevent the discharge into the atmosphere of at least 77% by weight of volatile organic compound emissions. The loading rack is equipped with a vapor control unit (VCU). (9 VAC 5-40-5220. D)

3. The loading rack must be equipped for bottom loading - all bays. (9 VAC 5-40-5230. D. 2. a)

40 CFR 60, Subpart XX Requirements

Total organic compound (TOC) emissions from the vapor recovery unit shall not exceed 35 mg/l of gasoline loaded. This limitation is applicable because of the replacement of the original VRU which took place in 1986. It is found at Part II. Condition E. 2. a. (3.)

A tanker trucker must present documentation of the vapor tightness of the tank prior to loading. This is found at Part II. Condition E. 4. a. (1)

Vapor tightness of the loading rack and VRU must be verified by monthly inspections during the loading of tanker trucks. Sight, sound, and smell are acceptable means for the determinations. Findings must recorded in a log book and the log must be retained on site for review by appropriate inspectors. This condition is found at Part II. Condition E.2. b. (1).

Fugitive emissions from the loading rack may be quantified. These emissions (TOC) have been calculated from AP-42 data as 13 mg/l, loaded. However, data from the CTG indicate that the emissions are more nearly 8 mg/l. The 8 mg/l factor is used in the permit both for establishing an emission inventory and for fee purposes. This is a part of the streamlining of requirements. This is

found at Condition II. E. 2. a. (2)

MACT Applicability

Motiva (formerly Shell) has requested throughput limits and HAP limits under 9 VAC 5-80-100 B. 2. to make it clear that it does not have the potential to emit at the major source level for HAPs. Motiva is not taking the limits to change its status from major to minor to avoid Subpart R.

Motiva is not a major HAP source and therefore is not subject to Subpart R. The following table shows Motiva's current throughput and HAP emissions and the emissions resulting from the permit limits requested under alternative operating scenarios 1 & 2. Because it is located in a nonattainment area, Motiva has been required to install controls for VOC emissions. Since most of Motiva's HAP emissions are also VOCs, Motiva's HAP emissions are controlled as well. Since a NSR permit is required before Motiva can operate under any portion of Alt. 2, and under Alt. 2 Motiva is not a major HAP source, Motiva currently can not have the PTE to be a major HAP source.

	Million Gallons per year	MTBE TPY	THAP TPY
Current	331,915,000	1.8	2.8
Alt. 1	730,537,800	7.4	11.1
Alt. 2	976,229,400	9.2	13.8

Under 40 CFR 63 Subpart R-National Emission Standards for Gasoline Distribution Facilities, 40 CFR 63.420 (a) (2), the affected facility to which the provisions of the subpart apply is each bulk gasoline terminal except those bulk gasoline terminals "For which the owner or operator has documented and recorded to the Administrator's satisfaction that the facility is not a major source,..."

Under 40 CFR 63, "major source" is defined in subpart A and is a source with actual or potential HAP emissions, considering controls, of 10 or more tons per year of a single HAP or 25 or more tons per year of any combination of HAPs.

When using the inventory determination described in 40 CFR 63.420 (a) (2), the subpart R record keeping requirements contained in 63.428 (i) & (j) do not apply and, as stated in 40 CFR 63.420 (f) as amended 2-28-97, the source is not required to submit it's inventory determination unless requested by the administrator. This is further emphasized in the preamble to the amendment, FR Vol 62 no. 40 p 9091 para. 6.

To summarize, Motiva (Shell) is not a major HAP source, is not subject to Subpart R, and was not required to notify the Administrator that is was not a major source. Since it is not a major source, the throughput limits it has requested are not creating a "synthetic minor," they are simply stating the PTE.

Monitoring

Monitoring of tanks is found in the Title V permit at Part III. A. 1. e. The emissions are estimated by the current revision of the EPA TANKS model. There may be an alternative method used provided prior approval is secured from both the EPA and DEQ.

Monitoring is required for VOC emissions from the VRU as described in Condition Part II. B.4. c. The baseline for this is established during the annual certification test. The expected response time to inspect and isolate a breakthrough or other malfunction is from one (1) to 24 hours. The expected time required to develop and implement a solution is from one (1) to seven (7) days.

Additionally the Loading Rack and VRU are monitored by inspection for vapor/liquid leaks each calendar month at Condition Part II. E. 2. b.(1).

The monthly site inspection of all pumps, fittings, etc., at Condition Part III. A. 2 assures that fugitive emissions will be minimized.

Monitoring for opacity has not been addressed simply because the volatile organic compounds emitted are not the type which normally lend themselves to the generation of opacity. The opacity requirement found at 9 VAC 5-40-5240 and 9 VAC 5-50-80 are, however, applicable to the operation of this facility.

Fugitive dust is not a significant issue because the surfaces of this facility are composed of asphalt and concrete. These surfaces do not generally produce airborne fugitive dust. Good work practices for the facility are reflected in periodic wash-down operations to remove trace amounts of fuel lost during the fueling of tanker trucks. This removes the small amounts of dirt, etc., brought to the site by the tanker trucks. While the requirements of 9 VAC 5-40-5250 and 9 VAC 5-50-90 are applicable the likelihood of the generation of measurable fugitive dust emissions is not likely.

Recordkeeping and Reporting

All records of monitoring maintained to demonstrate compliance with the terms and conditions of this permit shall contain, where applicable, the following:

(1) The date, place as defined in the permit and the time of sampling or measurements.

(2) The dates analyses were performed.

(3) The company or entity that performed the analyses.

(4) The analytical methods used.

(5) Results of such analyses.

(6) Operating conditions existing at the time of sampling or measurement.

(9 VAC 5-80-110 F)

Records of all monitoring data and supporting information shall be retained for at least five years (9 VAC 5-80-110.F.1.b) from the date the information was obtained unless a lesser date is indicated. Support information includes all calibration and maintenance records and all other data including modeling required by the permit. This data shall also include any deviations from permit requirements. The term"deviation" includes any exceedence of permit condition or any excursion from control performance indicator documented through periodic or compliance assurance monitoring. Results of this data contained in any applicable requirement shall be submitted to the Air Compliance Manager, Northern Virginia Regional Office with a copy to

Chief, Air Enforcement Branch (3AT20)
U. S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

Results shall be submitted no later than March 1 and September 1 of each calendar year. The report must be signed by a responsible official consistent with 9 VAV 5-80-80 G, and shall include:

(1) The time period covered by the report - the time periods to be addressed are January 1 to June 30 and July 1 to December 31 (9 VAC 5-80-110 F).

(2) The permit also requires periodic inspections of the internal floating roof, the associated seals and the recordkeeping and reporting for the inspections. By this permit all internal floating roof tanks are required to be inspected and recordkeeping and reporting are the same for all tanks which store gasoline. The tanks are also subject to 9 VAC 5-40-5200. Under the present operational mode tanks TO3, TO8, and TO9 are exempt from regulation because of the vapor pressure of the liquid stored; however, under the second alternate scenario (ALT2) where all ten tanks would contain gasoline then all ten tanks would be subject to 9 VAC 5-40-5200.

(3) A vapor control unit for the loading rack was installed in 1975 and replaced in February 1986. Stack testing demonstrated emissions through the unit of 2.6 mg/hr or 0.022 lbs/gallon of gasoline loaded. Records of retest of this unit indicate in June 1995

VOC emission rate was 0.64 mg/l (Applicable NSPS Subpart XX limit is 35 mg/l). A test conducted in August 1996 indicated a VOC emissions rate of 1.85 mg/l (NSPS limit is 35 mg/l).

(4) The NSPS Subpart XX also requires tanker truck certification for vapor tightness

Annual Compliance Certification

Exclusive of any reporting required to assure compliance with the terms of this permit or as a part of a schedule of compliance contained in this permit, the permittee shall submit to EPA and DEQ no later than March 1 each calendar year, a certification of compliance with all terms and conditions of this permit including emission limitation standards or work practices. The compliance certification shall comply with such additional requirements that may be specified pursuant to § 114(a)(3) and § 504(b) of the federal Clean Air Act. This certification shall be signed by a responsible official, consistent with 9 VAC 5-80-80 G and shall include:

(1) The time period included in the certification - The time periods to be addressed is January 1 to December 31.

(2) A description of the means for assessing or monitoring the compliance of the source with its emissions limitations, standards and work practices.

(3) The identification of each term or condition of the permit that is the basis of the certification.

(4) The compliance status.

(5) Whether compliance was continuous or intermittent, and if not continuous, documentation of each incident of non-conformance.

(6) Consistent with subsection 9 VAC 5-80-110 E, the method or methods used for determining the compliance status of the source at the time of certification and over the reporting period.

(7) Such other facts as the permit may require to determine the compliance status of the source.

The certification as described shall be submitted to the Air Compliance Manager, Northern Virginia Regional Office, and a copy shall be sent to:

Clean Air Act Title V Compliance Certification (3APOO)
U. S. Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, PA 19103-2029
(9 VAC 5-80-110 K.5)

Generally Applicable Requirements

General requirements for organic liquid (gasoline) storage and transfer are found in 9 VAC 5-40-5200. This regulation includes the certification and verification of the vapor tightness requirement for tanker trucks loading at this facility. Most of this facility, nine (9) tank, was constructed about 1964. One tank was constructed in 1970. These construction time frames make all of the fuel storage tanks grandfathered.

Emission controls of Subpart K, Ka, and Kb are applicable even though the facility is grandfathered. Storage of a volatile organic liquid requires control - suppression or elimination of VOC emissions by 90% . This condition can be met by the installation of an internal floating roof with appropriate seals. Although this condition does not appear in a previous permit the condition is still applicable.

Visible emissions are addressed in Conditions II. D. 1 (generally). There are no opaque emissions of significance. Fugitive dust emissions are addressed specifically in Condition III. A. 24. The facility is paved and the only products are liquid petroleums. There are no visible emissions from these products and asphalt roads and aprons do not lend themselves to the generation of fugitive dust emission.

Future Applicable Requirements

There are no future applicable requirements at this time.

Non-applicable Requirements

Requirements, both federal and state, deemed non-applicable have been addressed in the permit at Part III. *D.*

Exclusions

No specific exclusions from applicable requirements are known.

Determinations

Not Applicable

IV. Standard Terms and Conditions

The draft permit contains those standard conditions that apply to essentially any major VOC source of this type. No source-specific standard conditions were developed for this facility.

V. Insignificant Activities

There are no insignificant activities other than those addressed in 9 VAC 5-80-720.

VI. Public Participation

The proposed permit was placed on public notice in the **Washington Times** on May 17, 1999, and the comment period extended from publication date for 30 days.. A copy of the newspaper notice is available for anyone who wants it.

Comments were received from the source (Jil Norman), and EPA (Dave Campbell). A response to those comments was made on August 18, 1999.

The proposed permit was transmitted to EPA by FAX and letter on August 25, 1999. The 45 day final comment period for EPA expired October 9, 1999.